

REMARKS

In view of the following remarks, Applicant respectfully requests reconsideration and allowance of the subject application. This amendment is believed to be fully responsive to all issues raised in the Office Action mailed
5 January 30, 2004.

Rejections Under 35 U.S.C. §102

Claims 1-31 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,586,291 to Lasker et al. (hereinafter, "the
10 '291 patent"). Applicant traverses these rejections.

Applicant submits that the '291 patent cannot anticipate (or render obvious) independent claim 1 because the '291 patent neither discloses (nor even suggests) the limitation of *a write stack drive to receive said write command and to store write operations within said write command with write
15 stack operations on a non-volatile cache memory*, as explicitly recited in claim 1. The Action asserts that the '291 patent discloses this limitation, and cites column 4, lines 5-7 and 11-13 to support the rejection. Applicant disagrees. The cited text reads as follows:

20 In response to a write command received from a host computer, the controller microprocessor allocates a predetermined number of memory blocks in the non-volatile cache memory modules. After allocating the memory blocks of the non-volatile cache memory, the disk controller
25 selects and allocates a corresponding plurality of memory blocks in the volatile memory modules. Host supplied write data is then stored in the allocated memory blocks of the non-volatile memory module.
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Nothing in this text discloses (or even suggests) using write stack operations in non-volatile memory to store received write operations, as

explicitly recited in claim 1. Therefore, the '291 patent cannot anticipate independent claim 1.

Applicant notes that claims 2-6 depend from independent claim 1, and are allowable by virtue of their dependency. In addition, claims 2-6 recite limitations neither disclosed nor suggested by the '291 patent. By way of example, dependent claim 2 recites the limitation that the *non-volatile cache memory acts as a stack memory*. The Action asserts that the '291 patent discloses this limitation, and cited column 6, lines 63-64 to support the rejection. Applicant disagrees. The cited text reads as follows:

10 In the present embodiment the cache memory 26
is provided from a plurality of memory modules.
As shown in FIG. 1, the cache memory 26
includes one or more volatile memory modules
15 32 which may for example be provided as
dynamic random access memory modules
(DRAMs). Cache memory 26 also includes a
plurality of non-volatile (NV) memory modules
34a-34N generally denoted 34. In one
20 embodiment one or more of the memory modules
32, 34 may be provided as single in-line memory
modules (SIMMs).

Nothing in this text discloses (or even suggests) a non-volatile memory that acts as a stack memory, as explicitly recited in claim 2.

25 Therefore, the '291 patent cannot anticipate independent claim 2.

Similarly, dependent claim 6 recites the limitation that the *write stack drive comprises metadata to reflect data within said write stack drive*. The Action asserts that the '291 patent discloses this limitation, and cited column 9, line 67 through column 10, line 2 to support the rejection. Applicant
30 disagrees. The cited text reads as follows:

The microprocessor 20 also establishes a head pointer 52 and a tail pointer 54 which respectively point to the beginning and end of the free list 46.

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A careful review of the '291 patent reveals that the pointers described in this text simply indicate free memory space in the write cache. Nothing in this text discloses (or even suggests) a metadata file that reflects the data within the write stack drive, as explicitly recited in claim 6. Therefore, the

5 '291 patent cannot anticipate independent claim 6.

Applicant traverses the rejection of independent claim 7. Applicant submits that the '291 patent cannot anticipate (or render obvious)

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independent claim 7 because the '291 patent neither discloses (nor even suggests) the limitation of *a metadata file to identify the data stored within*

10 *said write stack drive*, as explicitly recited in claim 7. The Action asserts that the '291 patent discloses this limitation, and cites column 4, lines 5-7 and 11-13 to support the rejection. Applicant disagrees. Nothing in this text, excerpted above, discloses (or even suggests) a metadata file that identifies data stored within the write stack drive, as explicitly recited in claim 7.

15 Therefore, the '291 patent cannot anticipate independent claim 7.

Applicant notes that claims 8-12 depend from independent claim 7, and are allowable by virtue of their dependency. In addition, claims 8-12 recite limitations neither disclosed nor suggested by the '291 patent.

Dependent claim 8 was rejected on the same bases applied to
20 dependent claim 2. Applicant traverses the rejection of independent claim 8 based on the arguments proffered with respect to claim 2.

Dependent claim 10 recites the limitation of *a marker sector for each write stack operation stored within said write stack drive*. The Action asserts that the '291 patent discloses this limitation, and cited column 10, lines 16-26

to support the rejection. Applicant disagrees. The cited text reads as follows:

5 The write-domain sequence counters must insure
consistency between the read-cache and the
write-cache. Each time the controller
microprocessor 20 receives a write request for
the write-cache memory, the write domain
10 sequence counter value is incremented. Similarly,
each time data is written to the disk drive 18 the
sequence counter decrements. Thus, if there are
four write operations to be performed to disk, for
example, then the sequence counter holds a
15 value of four indicating that the data in the write-
cache and read-cache has been updated but that
the data has not yet been written to the disk drive
18.

A careful review of the '291 patent reveals that the sequence counter
described in this text is simply a counter that indicates the number of records
20 in the write cache. Nothing in this text discloses (or even suggests) a marker
sector for each write stack operation stored within said write stack drive, as
explicitly recited in claim 10. Therefore, the '291 patent cannot anticipate
claim 10.

Similarly, dependent claim 11, which depends from claim 10, recites
25 the limitation that the *marker sector includes a valid data flag*. The Action
asserts that the '291 patent discloses this limitation, and cited column 10,
lines 16-26, presented above, to support the rejection. Applicant disagrees.
Nothing in this text discloses (or even suggests) a marker sector that
includes a valid data flag, as explicitly recited in claim 11. Therefore, the
30 '291 patent cannot anticipate independent claim 11.

Independent claim 13 was rejected on the same bases applied to
independent claim 7. Applicant traverses the rejection of independent claim
13 based on the arguments proffered with respect to claim 7.

Dependent claim 16 was rejected on the same bases applied to claim 10. Applicant traverses the rejection of dependent claim 16 based on the arguments proffered with respect to claim 10.

Method claims 17-20, 22, 24, 25, and 30-31 were rejected on the same bases applied to claims 1, 5, 12, 4, and 13. Applicant traverses the rejection these claims based on the arguments proffered above.

Dependent claim 21 recites the limitation of *updating a metadata file when said write stack operations are performed*. Dependent claim 27 recites the limitation of *updating a metadata file that indicates current data within said write stack drive*. The Action asserts that the '291 patent discloses these limitations, and cites column 12, lines 4-8 to support the rejection. Applicant disagrees. The cited text reads as follows:

When a write-cache memory block is allocated it is removed from the head of the free list. For example assuming the eight memory blocks represented by domain 48a are allocated, then the domain 48a is effectively removed from the free list by modifying the head pointer 52 to point to a new head of the free list.

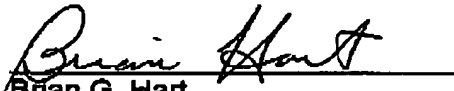
A careful review of the '291 patent reveals that the pointer described in this text simply points to free memory space. Nothing in this text discloses (or even suggests) a metadata file, as explicitly recited in claims 21 and 27. Therefore, the '291 patent cannot anticipate claims 21 or 27.

CONCLUSION

Claims 1-31 are believed to be in condition for allowance. Applicant respectfully requests reconsideration and prompt allowance of the present application. Should any issue remain that prevents immediate allowance of the application, the Examiner is encouraged to contact the undersigned attorney to discuss the unresolved issue.

Respectfully Submitted,
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